FIBER AND PROCESSING TESTS

SURVEY OF LEADING COTTON VARIETIES

CROP OF 1991

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INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton samples representing leading varieties commercially grown in the United States. The results of fiber and spinning tests on these samples provide data for studies of the relationships between fiber properties, processing performance and product quality, in reference to specific cotton varieties.

SAMPLING PROCEDURES

For this survey, a total of twenty-two upland and two American Pima bales representing leading cotton varieties were purchased. In each case, the owner certified that the bale was produced from a specific variety.

One upland variety was selected from the Southeastern Area of the United States, four varieties from the South Central Area, four from the Southwestern Area and three from the Western Area. In addition, one American Pima variety was selected from the Western Area. Two bales were to be obtained for each of the thirteen selected varieties. However, in the case of two varieties, Paymaster 145 and Paymaster HS26, only one bale of each was obtained.

Several sets of samples were taken from each bale for various fiber tests. Each set was composed of five samples taken at random across the "fanhead" of the bale. This means that each fiber statistic in this report, except for classer's grade, is the average of five readings. The classer's grade is based on a classer's sample of the bale and was assigned at the classing office.

A minimum of 150 pounds of cotton from each bale was processed for each spinning test.

PROCESSING

The 24 bales of cotton collected for this study were processed on modern textile processing equipment. The cotton was opened, blended and cleaned on Truetzchler equipment and carded on a Truetzchler Card at 70 pounds per hour. Drawing sliver was produced on a Reiter Breaker Drawing Frame (3 over 3) and a Saco Lowell Finisher Drawing Frame (3 over 4). Roving was produced on a Saco Lowell Long Draft Roving Frame (10 x 5, 1-Apron Type), and ring spun yarn was produced on a Saco Lowell Long Draft Spinning Frame (2-Apron Type). Rotor spun yarn was produced on a Schlafhorst Autocoro Spinning Frame.

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NOTE: Trade names are used solely to provide specific information. Mention of a trade name does not constitute a warranty or an endorsement of the product by the U.S. Department of Agriculture to the exclusion of other products not mentioned.

ACKNOWLEDGEMENT: Appreciation is expressed to C. K. Bragg and personnel of the Cotton Quality Research Station, ARS, U.S. Dept. of Agriculture, Clemson, SC for processing the cotton into yarn.

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Fiber Properties.

	DELTAPINE ACALA 90						DELTAPINE 20	
	SOUTHEAST		SOUTHWEST		FAR WEST		SOUTH CENTRAL	
	South Carolina	Georgia	Texas (Abilene Area)	Texas (Waco Area)	Arizona	California	Arkansas	Louisiana
CLASSIFICATION								
Classer's Grade (Code)	31	31	31	31	31	31	31	31
HVI Staple (Code)	35	35	34	35	37	36	36	36
HVI - MCI								
UHM (in)	1.10	1.09	1.07	1.08	1.16	1.13	1.12	1.12
Uniformity Index (%)	83.0	82.3	81.8	81.9	83.2	82.7	83.3	83.0
Strength (g/tex)	27.8	27.2	28.2	29.5	30.5	28.6	25.5	26.9
Elongation (%)	6.1	5.8	6.6	5.4	5.5	5.3	8.1	7.2
Micronaire (rdg)	4.0	4.5	3.8	3.9	4.3	4.8	4.4	3.9
Trash (% area)	0.26	0.32	0.32	0.42	0.12	0.15	0.30	0.30
Trash Grade	4	4	4	4	2	3	4	4
Color Rd (%)	77.2	74.5	75.9	76.4	78.1	77.1	77.7	80.6
Color +b (units)	9.1	9.0	9.0	9.5	9.8	8.9	8.3	8.7
STELOMETER								
1/8" - Gage Strength (g/tex)*	28.6	26.2	28.7	28.6	28.0	25.8	23.4	25.3
Elongation (%)	6.1	6.0	6.8	5.9	5.9	5.2	7.4	7.3
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.20	1.20	1.17	1.16	1.28	1.21	1.23	1.22
Mean Length (in)	0.99	0.96	0.96	0.96	1.04	0.97	1.00	1.00
CV (%)	29.0	32.5	30.5	29.7	31.4	32.5	30.5	30.5
Short Fiber Content (%)	8.2	10.5	9.7	9.2	8.8	10.9	9.2	9.7
IIC/SHIRLEY FMT								
Fineness (mtex)	162.4	182.0	158.6	157.8	185.6	193.6	179.8	175.2
Maturity Ratio	0.945	0.965	0.923	0.946	0.922	1.005	0.957	0.849
S. A. NON-LINT CONTENT								
Visible Waste (%)	1.0	1.4	1.4	1.8	1.4	1.1	1.3	1.1
Total Waste (%)	2.3	2.5	2.8	2.9	2.7	2.2	2.4	2.1
NEPS OF RAW COTTON								
APHIS (neps/gram)	400	295	417	398	299	279	364	357
Raw Stock Neps (neps/100 sq. in.)	22	18	21	24	18	13	16	16
SUGAR CONTENT (%)	0.24	0.26	0.21	0.23	0.37	0.42	0.23	0.30

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHEAST						SOUTH WEST					
	South Carolina			Georgia			Texas					
							(Abilene Area)			(Waco Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	5.78	5.78	5.78	7.45	7.45	7.45	6.60	6.60	6.60	7.73	7.73	7.73
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	9.9	21.7	29.8	10.1	21.9	29.7	10.0	21.8	29.4	9.8	21.5	30.4
CV% of Yarn Number	1.1	0.8	1.0	3.3	0.7	1.1	1.2	2.1	1.5	1.0	1.4	1.5
Count-Strength-Product	2378	2081	1873	2217	1896	1696	2415	2128	1905	2525	2157	1978
CV% of CSP	4.2	3.1	3.7	3.0	3.8	3.6	4.9	3.5	3.7	5.8	6.5	4.2
Elongation (%)	7.7	6.0	5.7	6.1	5.8	5.3	7.4	6.7	6.0	7.0	6.0	5.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	142	126	111	132	109	107	138	125	122	152	128	115
CV% of Tenacity	7.5	9.0	11.5	7.9	10.5	11.9	8.4	9.8	10.9	8.2	11.0	11.7
Force (N)	8.39	3.37	2.19	7.78	2.93	2.11	8.18	3.37	2.40	8.95	3.44	2.26
Elongation (%)	7.48	6.16	5.52	6.41	5.58	5.46	7.49	6.53	6.13	6.90	5.85	5.51
CV% of Elongation	9.3	8.9	9.8	9.6	9.4	10.2	9.1	10.4	8.6	9.9	9.4	11.3
Specific Work to Rupture (cm*N)	2.48	0.86	0.53	2.05	0.71	0.50	2.35	0.90	0.62	2.34	0.82	0.54
CV% of Specific Work to Rupture	12.4	14.1	17.7	13.7	16.1	17.8	13.9	15.4	16.3	12.3	16.4	17.0
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.6	14.9	16.3	12.6	14.4	16.9	12.5	13.9	14.9	12.6	14.1	16.2
Thick Places/1,000 yd	15	79	106	11	34	134	11	29	38	11	43	122
Thin Places/1,000 yd	0	15	79	0	22	127	0	6	34	0	9	57
Neps/1,000 yd	1	7	87	2	12	74	1	7	24	0	6	71
YARN APPEARANCE INDEX	120	110	110	130	110	120	110	110	110	130	110	100

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHEAST						SOUTH WEST					
	South Carolina			Georgia			Texas					
							(Abilene Area)			(Waco Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	5.78	5.78	5.78	7.45	7.45	7.45	6.60	6.60	6.60	7.73	7.73	7.73
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.5	35.5	49.2	21.9	35.7	49.7	21.8	35.3	49.8	21.8	36.3	49.1
CV% of Yarn Number	1.3	1.0	1.8	1.0	1.2	1.9	1.3	1.6	2.6	1.6	1.6	1.5
Count-Strength-Product	2330	2302	1887	2154	1965	1641	2239	2043	1743	2386	2290	1950
CV% of CSP	3.9	4.2	4.5	3.4	5.1	5.4	3.6	4.2	6.1	4.1	3.2	4.5
Elongation (%)	5.8	5.5	4.5	5.3	4.5	4.5	6.3	5.5	5.0	4.7	5.0	4.4
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	153	138	130	148	127	115	149	143	122	154	142	125
CV% of Tenacity	9.9	13.1	15.2	10.5	15.0	18.4	12.8	13.7	17.2	10.7	13.6	16.0
Force (N)	4.11	2.27	1.54	3.98	2.08	1.36	3.99	2.34	1.44	4.14	2.33	1.48
Elongation (%)	6.37	5.32	5.48	6.79	5.45	4.81	7.36	6.22	5.34	5.93	5.22	4.66
CV% of Elongation	11.2	13.5	11.5	13.2	13.9	16.8	13.7	12.3	19.0	12.2	12.5	15.2
Specific Work to Rupture (cm*N)	1.03	0.52	0.35	1.01	0.47	0.29	1.08	0.59	0.33	0.96	0.51	0.30
CV% of Specific Work to Rupture	14.5	19.6	21.1	15.6	21.7	25.9	18.9	18.9	26.0	16.0	19.2	22.3
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	20.8	25.6	29.1	21.5	25.8	29.3	22.5	27.0	31.0	22.2	26.8	29.5
Thick Places/1,000 yd	1256	2424	3379	1382	2474	3359	1661	2835	3899	1571	2753	3552
Thin Places/1,000 yd	233	1218	2129	355	1165	2374	466	1645	2831	418	1417	2304
Neps/1,000 yd	131	900	1643	175	839	1334	182	860	1588	261	1133	1605
YARN APPEARANCE INDEX	100	70	70	100	70	60	90	70	70	100	70	60

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE ACALA 90						DELTAPINE 20					
	FAR WEST						SOUTH CENTRAL					
	Arizona			California			Arkansas			Louisiana		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	6.84	6.84	6.84	8.28	8.28	8.28	6.05	6.05	6.05	6.99	6.99	6.99
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	9.9	21.7	29.5	9.8	21.7	30.0	9.9	21.9	29.6	10.0	21.7	29.9
CV% of Yarn Number	0.8	0.8	0.7	0.9	0.8	2.9	2.1	0.9	0.9	1.2	0.6	1.3
Count-Strength-Product	2467	2112	1923	2398	1993	1737	2019	1663	1532	2186	1885	1706
CV% of CSP	4.8	2.6	3.5	4.5	3.3	5.4	2.7	4.2	3.8	4.4	3.0	2.7
Elongation (%)	7.2	6.5	6.2	6.5	5.7	5.4	7.5	6.2	6.0	7.5	6.5	6.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	142	123	116	140	114	105	119	106	99	129	114	107
CV% of Tenacity	8.8	10.4	11.3	8.0	9.6	11.6	9.3	8.7	12.8	8.1	10.1	11.1
Force (N)	8.41	3.29	2.27	8.24	3.05	2.07	7.01	2.84	1.94	7.60	3.06	2.10
Elongation (%)	6.52	5.67	5.62	6.30	5.17	4.79	7.68	6.70	6.41	7.70	6.92	6.32
CV% of Elongation	10.0	8.6	10.8	9.2	12.3	12.7	9.8	9.1	11.6	9.6	8.4	11.3
Specific Work to Rupture (cm*N)	2.19	0.78	0.56	2.03	0.68	0.44	2.22	0.81	0.55	2.34	0.89	0.57
CV% of Specific Work to Rupture	13.2	14.4	16.2	13.2	14.4	16.4	15.0	15.7	20.5	13.4	15.2	18.3
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.6	15.8	16.3	12.4	15.0	16.1	13.1	15.7	16.6	12.2	15.1	16.5
Thick Places/1,000 yd	22	85	111	11	68	77	26	96	127	8	66	118
Thin Places/1,000 yd	2	38	84	0	14	65	2	44	123	1	21	100
Neps/1,000 yd	3	5	47	2	10	28	3	13	48	3	12	83
YARN APPEARANCE INDEX	120	110	110	130	110	100	130	110	110	120	110	110

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE ACALA 90						DELTAPINE 20					
	FAR WEST						SOUTH CENTRAL					
	Arizona			California			Arkansas			Louisiana		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	6.84	6.84	6.84	8.28	8.28	8.28	6.05	6.05	6.05	6.99	6.99	6.99
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.3	35.5	50.3	21.5	36.2	50.1	21.5	36.1	49.0	21.9	35.7	50.4
CV% of Yarn Number	1.3	2.4	2.0	1.2	1.5	2.1	1.0	1.6	2.3	1.1	1.4	1.6
Count-Strength-Product	2561	2329	2032	2281	2114	1719	1995	1828	1570	2175	2041	1769
CV% of CSP	3.4	5.1	6.3	3.3	3.8	7.2	4.4	4.5	5.0	4.2	4.8	4.0
Elongation (%)	6.5	5.8	5.3	5.8	5.0	4.3	6.8	5.7	5.5	6.0	6.2	5.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	163	149	128	152	129	127	131	113	113	142	123	119
CV% of Tenacity	12.6	15.8	18.3	12.0	12.4	18.9	11.9	13.9	17.4	11.4	16.3	17.6
Force (N)	4.37	2.44	1.52	4.08	2.12	1.50	3.52	1.86	1.33	3.80	2.02	1.40
Elongation (%)	6.34	5.49	5.15	5.79	5.08	4.80	7.51	6.59	6.30	7.54	5.85	6.28
CV% of Elongation	10.8	17.3	14.4	11.7	12.7	15.7	11.8	15.2	12.6	15.6	14.6	13.3
Specific Work to Rupture (cm*N)	1.12	0.56	0.35	0.91	0.45	0.31	1.04	0.51	0.35	1.11	0.49	0.38
CV% of Specific Work to Rupture	17.7	23.4	24.0	16.7	18.6	26.5	18.8	20.8	25.2	17.5	23.8	23.3
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	20.6	25.4	28.6	21.3	26.1	29.7	20.8	25.5	28.1	21.0	24.8	28.8
Thick Places/1,000 yd	1198	2344	3157	1371	2615	3536	1239	2391	3114	1212	2187	3375
Thin Places/1,000 yd	224	918	1900	252	981	2204	239	1076	1969	267	905	2156
Neps/1,000 yd	197	920	1661	251	858	1482	247	840	1212	288	868	1507
YARN APPEARANCE INDEX	90	80	60	90	70	60	100	90	70	90	70	60

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Fiber Properties.

	DELTAPINE 50				DELTAPINE SUREGROW DFS-119		STONEVILLE 453	
	SOUTH CENTRAL		SOUTHWEST Texas		SOUTH CENTRAL		SOUTH CENTRAL	
	Mississippi	Tennessee	Corpus Christi Area	Waco Area	Mississippi		Missouri	Tennessee
CLASSIFICATION								
Classer's Grade (Code)	31	31	31	31	31	31	41	31
HVI Staple (Code)	36	34	35	34	35	35	34	34
HVI - MCI								
UHM (in)	1.11	1.07	1.09	1.06	1.10	1.10	1.07	1.06
Uniformity Index (%)	83.0	82.0	81.9	82.4	82.4	83.6	81.8	82.2
Strength (g/tex)	26.3	25.8	25.4	25.4	27.4	26.9	25.5	25.2
Elongation (%)	6.6	6.4	6.8	6.1	6.9	7.0	6.4	6.2
Micronaire (rdg)	4.6	4.7	4.1	4.4	4.1	4.5	4.3	4.9
Trash (% area)	0.28	0.62	0.12	0.20	0.38	0.26	0.80	0.32
Trash Grade	4	5	2	3	4	4	5	4
Color Rd (%)	76.2	75.9	78.3	73.7	75.9	78.0	74.9	74.8
Color +b (units)	9.0	9.9	9.7	9.3	9.7	8.8	9.4	10.4
STELOMETER								
1/8" - Gage-Strength (g/tex)*	24.9	23.2	24.3	24.7	25.5	25.2	22.9	22.7
Elongation (%)	6.4	6.2	6.9	5.9	6.7	6.8	6.1	5.8
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.18	1.17	1.17	1.14	1.21	1.20	1.18	1.18
Mean Length (in)	0.96	0.95	0.91	0.93	0.98	1.00	0.96	0.96
CV (%)	31.3	30.3	36.0	30.4	30.7	28.3	31.1	30.1
Short Fiber Content (%)	10.6	9.7	15.3	10.4	9.6	8.3	9.7	8.9
IIC/SHIRLEY FMT								
Fineness (mtex)	187.4	194.6	171.6	178.2	168.8	183.0	181.2	207.6
Maturity Ratio	0.950	0.994	0.908	0.984	0.935	0.980	0.941	0.983
S. A. NON-LINT CONTENT								
Visible Waste (%)	1.1	1.9	1.0	1.0	1.6	1.4	2.7	1.5
Total Waste (%)	2.2	3.0	2.3	2.1	3.5	2.4	3.9	2.6
NEPS OF RAW COTTON								
APHIS (neps/gram)	332	357	494	329	322	258	386	319
Raw Stock Neps (neps/100 sq. in.)	15	20	22	17	17	13	23	17
SUGAR CONTENT (%)	0.23	0.26	0.44	0.29	0.21	0.45	0.33	0.28

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE 50											
	SOUTH CENTRAL						SOUTHWEST					
	Mississippi			Tennessee			Texas					
							(Corpus Christi Area)			(Waco Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	7.96	7.96	7.96	7.86	7.86	7.86	8.07	8.07	8.07	7.12	7.12	7.12
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	9.9	21.7	29.6	10.1	21.8	29.6	9.9	21.6	30.1	9.9	21.5	29.6
CV% of Yarn Number	1.4	1.2	0.9	3.1	1.1	1.0	1.0	0.9	1.0	1.1	0.9	1.0
Count-Strength-Product	2105	1779	1575	2136	1767	1599	2018	1731	1524	2173	1854	1574
CV% of CSP	5.5	3.9	3.8	3.9	4.8	2.9	3.5	2.5	3.1	6.0	2.6	9.7
Elongation (%)	6.6	6.0	5.5	7.0	6.5	5.7	7.5	7.0	6.3	6.8	6.3	5.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	126	108	102	119	110	98	118	106	97	130	115	101
CV% of Tenacity	9.2	11.4	8.3	9.2	13.0	11.1	8.1	9.9	11.5	8.1	11.6	12.4
Force (N)	7.43	2.90	2.00	7.05	2.96	1.92	6.99	2.84	1.90	7.71	3.09	1.99
Elongation (%)	6.92	6.15	5.70	6.77	5.96	5.35	7.02	6.73	5.80	6.92	6.24	5.28
CV% of Elongation	10.8	8.8	9.7	9.4	11.7	11.7	10.4	8.5	12.0	7.6	9.1	11.0
Specific Work to Rupture (cm*N)	2.05	0.75	0.49	2.01	0.77	0.47	2.03	0.81	0.49	2.12	0.81	0.47
CV% of Specific Work to Rupture	16.0	17.1	13.5	13.7	18.9	17.1	13.4	15.2	17.8	12.7	16.0	17.9
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	13.1	15.8	16.7	12.8	15.9	17.2	13.7	14.8	17.0	12.4	15.0	16.6
Thick Places/1,000 yd	28	102	120	18	160	156	24	50	128	11	77	128
Thin Places/1,000 yd	2	24	73	0	49	162	5	28	124	1	10	84
Neps/1,000 yd	3	5	65	6	19	75	1	10	83	1	9	58
YARN APPEARANCE INDEX	130	120	100	120	110	110	110	110	100	110	110	110

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE 50											
	SOUTH CENTRAL						SOUTHWEST					
	Mississippi			Tennessee			Texas					
							(Corpus Christi Area)			(Waco Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	7.96	7.96	7.96	7.86	7.86	7.86	8.07	8.07	8.07	7.12	7.12	7.12
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.4	35.0	46.6	21.4	35.4	50.7	22.0	34.9	48.9	21.7	35.6	48.7
CV% of Yarn Number	1.4	1.9	1.2	1.0	1.4	2.2	2.0	5.9	1.6	1.0	2.0	1.6
Count-Strength-Product	1939	1739	1523	2036	1814	1456	1839	1594	1391	2025	1852	1555
CV% of CSP	5.1	5.6	5.4	4.3	3.0	6.1	4.7	5.0	7.3	4.2	4.6	6.4
Elongation (%)	6.2	5.1	5.0	5.9	5.3	4.8	6.4	5.5	5.4	6.0	5.0	4.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	134	122	118	141	117	104	125	111	97	135	121	104
CV% of Tenacity	13.0	15.1	21.4	11.7	12.8	15.7	12.5	19.9	18.9	12.0	12.7	18.8
Force (N)	3.60	2.00	1.39	3.79	1.92	1.22	3.35	1.83	1.15	3.61	1.99	1.22
Elongation (%)	6.77	5.64	5.47	7.09	5.57	5.08	7.22	6.00	5.53	6.51	5.29	4.68
CV% of Elongation	12.2	12.6	16.2	17.1	11.4	17.1	10.7	14.8	14.9	10.1	10.9	14.0
Specific Work to Rupture (cm*N)	0.97	0.50	0.34	1.01	0.46	0.27	0.93	0.46	0.28	0.92	0.44	0.27
CV% of Specific Work to Rupture	17.9	20.4	29.5	19.4	19.5	24.6	17.9	27.0	26.5	16.9	18.6	25.2
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	23.7	27.8	30.9	21.2	25.4	29.1	25.6	30.3	33.3	21.8	25.6	29.4
Thick Places/1,000 yd	1953	2968	3858	1229	2339	3277	2578	3748	4486	1398	2431	3468
Thin Places/1,000 yd	623	1661	2768	325	1101	2258	991	2697	3884	341	1098	2369
Neps/1,000 yd	284	1047	1600	116	665	1148	417	1498	2429	181	862	1351
YARN APPEARANCE INDEX	90	70	60	90	80	70	60	70	60	90	90	70

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE SUREGROW DES-119						STONEVILLE 453					
	SOUTH CENTRAL						SOUTH CENTRAL					
	Mississippi						Missouri			Tennessee		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	7.73	7.73	7.73	6.41	6.41	6.41	8.23	8.23	8.23	7.75	7.75	7.75
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	9.9	21.3	29.1	9.8	21.9	29.8	10.4	21.8	29.6	9.9	21.8	29.8
CV% of Yarn Number	1.3	1.7	1.1	1.0	0.7	0.8	0.5	1.0	0.9	2.0	1.0	1.1
Count-Strength-Product	2427	1988	1800	2390	1968	1739	2169	1686	1542	1979	1719	1507
CV% of CSP	2.7	3.3	3.4	3.2	3.2	3.7	2.9	2.9	2.7	7.7	3.9	3.9
Elongation (%)	7.0	5.9	6.0	7.0	6.7	6.2	6.4	5.9	5.5	6.3	5.8	5.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	139	126	114	134	114	106	126	104	99	122	97	96
CV% of Tenacity	7.1	9.3	9.4	7.2	10.6	9.6	7.1	9.7	11.0	8.2	12.8	11.5
Force (N)	8.22	3.37	2.24	7.94	3.05	2.09	7.44	2.79	1.95	7.20	2.61	1.88
Elongation (%)	7.20	6.35	6.46	7.31	6.50	5.75	6.24	5.59	5.51	6.85	5.54	5.29
CV% of Elongation	9.1	8.9	11.4	10.3	8.8	15.0	14.0	11.0	13.9	11.4	11.5	10.1
Specific Work to Rupture (cm*N)	2.43	0.95	0.60	2.27	0.84	0.52	1.96	0.70	0.49	2.02	0.66	0.45
CV% of Specific Work to Rupture	11.7	13.8	15.0	13.3	14.4	17.8	15.1	15.3	16.7	13.3	18.4	17.1
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.1	15.0	16.9	13.2	15.7	16.1	12.8	16.2	16.8	14.0	15.4	17.7
Thick Places/1,000 yd	10	66	142	21	108	87	25	162	160	40	84	188
Thin Places/1,000 yd	1	31	135	2	30	88	2	44	130	2	42	204
Neps/1,000 yd	8	13	131	1	4	31	11	15	78	0	8	84
YARN APPEARANCE INDEX	120	120	110	120	110	110	120	120	110	120	110	100

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE SUREGROW DES-119						STONEVILLE 453					
	SOUTH CENTRAL						SOUTH CENTRAL					
	Mississippi						Missouri			Tennessee		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	7.73	7.73	7.73	6.41	6.41	6.41	8.23	8.23	8.23	7.75	7.75	7.75
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	22.2	35.8	49.5	21.9	35.6	48.2	21.2	35.7	50.3	21.8	35.6	50.3
CV% of Yarn Number	1.2	1.7	3.9	2.4	1.4	1.9	1.1	1.6	4.7	1.1	1.3	1.8
Count-Strength-Product	2265	2094	1778	2285	2136	1852	2039	1725	1440	1882	1651	1332
CV% of CSP	4.2	3.9	7.5	4.7	4.4	4.6	4.2	4.3	4.5	4.1	4.8	7.1
Elongation (%)	6.1	5.8	5.0	6.5	5.8	5.3	6.4	5.1	4.9	5.5	4.7	4.7
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	145	129	124	145	136	130	131	119	100	118	108	94
CV% of Tenacity	11.7	11.6	16.0	11.3	12.9	16.7	12.9	13.3	21.0	13.0	15.4	17.5
Force (N)	3.90	2.12	1.47	3.90	2.22	1.54	3.52	1.95	1.18	3.17	1.77	1.12
Elongation (%)	6.70	6.06	5.74	6.78	5.90	5.72	6.55	5.34	4.93	5.69	4.97	5.10
CV% of Elongation	8.8	11.4	13.3	9.8	11.2	12.2	11.6	12.7	16.5	17.0	14.9	14.2
Specific Work to Rupture (cm*N)	1.03	0.53	0.37	1.02	0.54	0.37	0.96	0.46	0.26	0.82	0.43	0.26
CV% of Specific Work to Rupture	15.3	17.3	21.6	16.1	18.2	22.7	17.5	19.8	30.1	20.1	21.6	25.5
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	21.3	25.5	28.5	19.8	23.5	26.4	22.7	27.0	30.6	22.4	27.0	30.5
Thick Places/1,000 yd	1261	2307	3141	883	1840	2636	1694	2841	3785	1497	2702	3609
Thin Places/1,000 yd	295	1109	2000	177	610	1403	519	1695	2913	563	1678	2805
Neps/1,000 yd	202	788	1237	170	518	943	291	1109	1696	109	603	1230
YARN APPEARANCE INDEX	90	70	70	90	90	60	70	70	60	90	70	60

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Fiber Properties.

	PAYMASTER 145	PAYMASTER HS 26	ACALA SJ-2		GERMAIN'S GC-510	
	SOUTHWEST	SOUTHWEST	FAR WEST		FAR WEST	
	Texas	Texas	California		California	
	(Lubbock Area)	(Lamesa Area)	San Joaquin Valley		San Joaquin Valley	
CLASSIFICATION						
Classer's Grade (Code)	31	31	31	31	31	21
HVI Staple (Code)	32	33	37	37	36	36
HVI - MCI						
UHM (in)	0.99	1.02	1.14	1.16	1.11	1.13
Uniformity Index (%)	80.2	81.9	83.5	83.7	83.4	83.9
Strength (g/tex)	24.5	28.3	29.5	28.5	28.7	29.4
Elongation (%)	6.8	7.8	5.9	5.2	6.1	5.9
Micronaire (rdg)	3.4	4.0	3.8	4.0	4.2	4.0
Trash (% area)	0.37	0.12	0.14	0.08	0.18	0.14
Trash Grade	4	2	2	2	3	2
Color Rd (%)	78.3	79.4	79.6	78.8	78.9	80.1
Color +b (units)	9.2	8.8	9.5	9.5	9.6	9.7
STELOMETER						
1/8" - Gage Strength (g/tex)*	22.5	24.3	26.0	27.5	29.7	29.3
Elongation (%)	6.3	7.5	6.0	5.5	5.9	5.6
SUTER-WEBB LENGTH ARRAY						
UQL (in)	1.06	1.10	1.26	1.26	1.23	1.25
Mean Length (in)	0.84	0.90	1.03	1.04	1.04	1.04
CV (%)	33.2	31.0	30.4	28.6	26.6	27.7
Short Fiber Content (%)	13.8	11.9	8.4	7.6	6.5	7.2
IIC/SHIRLEY FMT						
Fineness (mtex)	153.8	179.4	172.8	166.4	166.4	159.4
Maturity Ratio	0.824	0.851	0.813	0.924	0.969	0.980
S. A. NON-LINT CONTENT						
Visible Waste (%)	1.8	1.4	1.6	1.4	1.8	0.8
Total Waste (%)	3.2	2.8	2.8	2.3	2.7	1.6
NEPS OF RAW COTTON						
APHIS (neps/gram)	487	442	389	277	338	318
Raw Stock Neps (neps/100 sq. in.)	18	26	17	19	17	27
SUGAR CONTENT (%)	0.61	0.41	0.61	0.48	0.51	0.42

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	PAYMASTER 145			PAYMASTER HS 26		
	SOUTHWEST Texas (Lubbock Area)			SOUTHWEST Texas (Lamesa Area)		
	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	8.52	8.52	8.52	8.67	8.67	8.67
YARN SKEIN STRENGTH TEST:						
Yarn Number (Ne)	9.9	21.7	29.5	9.9	21.6	29.5
CV% of Yarn Number	0.8	1.0	0.9	1.9	0.9	1.5
Count-Strength-Product	2118	1786	1593	2173	1787	1619
CV% of CSP	3.8	2.9	3.2	3.1	5.8	3.5
Elongation (%)	7.8	6.5	6.5	7.8	6.7	6.5
SINGLE-YARN STRENGTH TEST:						
Tenacity (mN/tex)	120	106	99	130	110	103
CV% of Tenacity	8.7	9.8	12.3	8.1	10.3	12.8
Force (N)	7.08	2.83	1.95	7.68	2.95	2.03
Elongation (%)	7.19	6.27	6.31	7.75	7.03	6.29
CV% of Elongation	9.0	9.8	10.6	8.2	10.7	11.8
Specific Work to Rupture (cm*N)	2.13	0.77	0.55	2.47	0.88	0.56
CV% of Specific Work to Rupture	13.0	15.8	17.0	13.7	15.7	19.4
USTER YARN EVENNESS TEST:						
Non-Uniformity (CV%)	13.5	14.4	16.2	12.8	14.8	15.8
Thick Places/1,000 yd	43	40	88	23	62	60
Thin Places/1,000 yd	3	14	53	1	20	63
Neps/1,000 yd	1	6	68	10	10	21
YARN APPEARANCE INDEX	120	110	100	120	110	100

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	PAYMASTER 145			PAYMASTER HS 26		
	SOUTHWEST Texas (Lubbock Area)			SOUTHWEST Texas (Lamesa Area)		
	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	8.52	8.52	8.52	8.67	8.67	8.67
YARN SKEIN STRENGTH TEST:						
Yarn Number (Ne)	21.4	35.2	49.8	21.7	34.1	50.0
CV% of Yarn Number	1.3	1.4	2.4	1.3	1.9	1.5
Count-Strength-Product	2001	1714	1663	1982	1717	1469
CV% of CSP	4.7	4.7	7.2	3.7	5.5	5.2
Elongation (%)	6.5	5.5	5.8	6.6	5.7	5.0
SINGLE-YARN STRENGTH TEST:						
Tenacity (mN/tex)	135	114	98	130	125	103
CV% of Tenacity	14.5	11.4	17.0	11.2	16.0	18.8
Force (N)	3.63	1.86	1.16	3.49	2.04	1.21
Elongation (%)	8.44	6.24	5.80	6.83	6.62	6.08
CV% of Elongation	14.3	11.4	12.6	18.6	18.9	14.2
Specific Work to Rupture (cm*N)	1.08	0.48	0.29	0.99	0.56	0.32
CV% of Specific Work to Rupture	20.1	15.9	23.2	20.2	28.3	26.0
USTER YARN EVENNESS TEST:						
Non-Uniformity (CV%)	23.9	28.8	32.0	22.9	27.3	30.0
Thick Places/1,000 yd	1985	3305	4122	1739	2900	3674
Thin Places/1,000 yd	918	2553	3832	577	1729	2734
Neps/1,000 yd	349	1255	1780	305	986	1643
YARN APPEARANCE INDEX	70	60	60	70	70	60

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	ACALA SJ-2						GERMAIN'S GC-510					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	6.53	6.53	6.53	5.94	5.94	5.94	7.08	7.08	7.08	4.76	4.76	4.76
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.1	21.7	29.5	9.8	21.4	29.4	10.0	21.5	29.0	9.9	21.6	29.7
CV% of Yarn Number	2.2	1.0	1.1	2.0	1.0	1.1	0.7	1.1	1.3	1.0	0.9	1.1
Count-Strength-Product	2557	2088	1889	2699	2256	2050	2651	2385	2086	2795	2520	2272
CV% of CSP	2.5	3.8	3.8	2.8	3.5	2.9	4.4	3.2	4.5	5.2	2.6	3.2
Elongation (%)	7.5	6.5	6.3	7.3	6.5	6.2	7.1	6.3	6.6	7.5	6.8	6.2
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	144	128	119	153	134	125	152	138	132	162	145	135
CV% of Tenacity	7.2	8.3	10.0	8.0	9.8	10.9	7.6	9.7	10.6	7.8	8.7	10.4
Force (N)	8.53	3.44	2.34	9.05	3.60	2.46	8.99	3.69	2.60	9.55	3.89	2.65
Elongation (%)	7.47	6.45	6.19	6.60	5.92	5.55	7.33	6.37	6.07	6.39	6.41	6.12
CV% of Elongation	8.0	8.5	10.5	8.5	9.7	9.0	12.6	7.6	9.6	13.0	7.2	8.2
Specific Work to Rupture (cm*N)	2.46	0.89	0.60	2.29	0.86	0.58	2.41	0.96	0.64	2.54	0.97	0.65
CV% of Specific Work to Rupture	10.6	12.8	15.2	12.0	13.9	14.9	12.1	13.1	17.0	13.7	12.4	15.6
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.3	13.8	15.4	12.2	14.1	15.6	11.6	14.5	15.5	11.7	14.5	15.0
Thick Places/1,000 yd	25	27	77	14	36	67	7	54	84	8	63	67
Thin Places/1,000 yd	2	9	40	0	4	66	0	9	39	0	14	29
Neps/1,000 yd	14	18	50	7	9	36	3	13	70	5	11	62
YARN APPEARANCE INDEX	130	120	100	110	110	110	120	110	110	120	100	100

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	ACALA SJ-2						GERMAIN'S GC-510					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	6.53	6.53	6.53	5.94	5.94	5.94	7.08	7.08	7.08	4.76	4.76	4.76
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	22.0	35.9	50.2	22.1	34.9	50.5	21.9	35.3	49.7	21.5	35.3	49.2
CV% of Yarn Number	1.1	1.8	1.7	1.0	1.0	1.8	1.3	1.6	1.1	0.9	1.4	1.4
Count-Strength-Product	2450	2278	2081	2717	2525	2222	2762	2648	2451	2981	2820	2622
CV% of CSP	4.5	4.2	4.5	3.5	4.6	6.4	3.5	4.6	5.5	3.1	4.4	3.2
Elongation (%)	6.4	6.2	5.7	6.0	5.2	4.9	6.3	5.5	5.7	6.8	6.0	5.9
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	148	145	135	169	167	129	183	173	160	188	177	167
CV% of Tenacity	12.5	14.8	18.1	10.5	13.9	16.2	10.1	12.5	14.0	12.0	13.4	14.4
Force (N)	3.98	2.37	1.60	4.54	2.73	1.53	4.91	2.84	1.89	5.03	2.90	1.97
Elongation (%)	6.63	6.17	5.58	6.39	5.69	4.69	7.02	6.09	5.74	6.91	6.41	6.04
CV% of Elongation	12.0	13.9	11.6	11.4	9.8	13.6	9.4	10.9	10.3	14.4	10.8	11.3
Specific Work to Rupture (cm*N)	1.12	0.63	0.37	1.11	0.62	0.31	1.28	0.69	0.43	1.30	0.69	0.46
CV% of Specific Work to Rupture	16.8	20.7	24.0	14.7	18.2	21.9	13.4	17.0	18.1	16.4	17.5	18.4
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	21.5	25.4	28.3	20.5	23.9	26.5	19.3	23.2	25.1	18.1	21.5	24.7
Thick Places/1,000 yd	1481	2469	3312	1214	1990	2704	912	1814	2368	667	1338	2137
Thin Places/1,000 yd	271	1028	1649	189	600	1254	116	544	850	52	289	810
Neps/1,000 yd	565	1487	2167	329	1025	1477	592	1172	1487	446	826	1105
YARN APPEARANCE INDEX	100	70	60	100	70	60	100	70	60	100	70	70

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Combed, **RING SPUN YARN.**

	ACALA SJ-2						GERMAIN'S GC-510					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	8.93	8.93	8.93	5.94	5.94	5.94	7.08	7.08	7.08	4.76	4.76	4.76
COMBING WASTE(%):	21.10	21.10	21.10	20.65	20.65	20.65	16.21	16.21	16.21	17.82	17.82	17.82
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.9	35.4	51.5	22.2	36.5	48.9	22.0	35.1	49.5	22.0	35.6	48.9
CV% of Yarn Number	3.2	5.4	5.3	1.9	2.0	4.6	1.7	1.7	2.7	2.9	1.5	2.0
Count-Strength-Product	2886	2738	2477	3175	2927	2722	3220	3149	2940	3300	3127	3018
CV% of CSP	2.8	2.9	3.6	3.3	3.9	3.5	3.2	4.6	4.9	4.3	4.7	3.7
Elongation (%)	6.8	6.2	5.6	6.2	5.4	5.1	6.8	6.0	5.9	7.0	5.8	6.2
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	178	167	154	183	173	165	203	188	166	201	197	181
CV% of Tenacity	9.1	13.0	12.6	9.9	10.8	13.1	8.7	10.7	15.4	9.8	10.3	11.9
Force (N)	4.79	2.74	1.82	4.92	2.84	1.95	5.45	3.08	1.96	5.39	3.24	2.14
Elongation (%)	6.95	6.20	6.12	6.61	5.70	5.52	7.31	6.28	6.01	6.76	6.29	6.17
CV% of Elongation	12.7	11.2	9.9	8.3	9.6	8.8	9.2	15.1	10.2	9.5	9.2	8.4
Specific Work to Rupture (cm*N)	1.34	0.72	0.47	1.18	0.64	0.42	1.41	0.73	0.47	1.34	0.77	0.51
CV% of Specific Work to Rupture	13.7	17.3	16.1	13.5	14.9	17.3	12.7	16.3	18.6	13.5	14.2	15.4
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	14.9	17.5	20.0	14.3	16.9	19.9	13.8	15.8	18.5	14.0	16.2	19.5
Thick Places/1,000 yd	186	551	991	121	369	725	97	257	659	89	299	680
Thin Places/1,000 yd	18	94	214	9	58	227	2	30	128	4	47	165
Neps/1,000 yd	79	350	562	24	134	258	71	176	321	39	177	303
YARN APPEARANCE INDEX	100	90	80	120	100	80	110	100	80	100	90	80

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Fiber Properties.

	PIMA S-6	
	FAR WEST	
	Arizona	New Mexico
CLASSIFICATION		
Classer's Grade (Code)	3	3
HVI Staple (Code)	44	46
HVI - MCI		
UHM (in)	1.30	1.35
Uniformity Index (%)	87.6	89.6
Strength (g/tex)	36.5	40.2
Elongation (%)	5.9	6.3
Micronaire (rdg)	4.0	4.2
Trash (% area)	0.46	0.47
Trash Grade	-	-
Color Rd (%)	65.4	65.1
Color +b (units)	13.1	12.4
STELOMETER		
1/8" - Gage Strength (g/tex)*	38.8	37.1
Elongation (%)	6.9	7.0
SUTER-WEBB LENGTH ARRAY		
UQL (in)	1.45	1.48
Mean Length (in)	1.22	1.26
CV (%)	28.0	25.3
Short Fiber Content (%)	5.1	4.0
IIC/SHIRLEY FMT		
Fineness (mtex)	155.8	159.6
Maturity Ratio	0.982	0.984
S. A. NON-LINT CONTENT		
Visible Waste (%)	1.6	1.9
Total Waste (%)	3.2	3.1
NEPS OF RAW COTTON		
APHIS (neps/gram)	198	176
Raw Stock Neps (neps/100 sq. in.)	13	11
SUGAR CONTENT (%)	0.32	0.41

*Stelometer results adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1991 Cotton Crop - Yarn Properties for Combed, **RING SPUN YARN.**

	PIMA S-6					
	FAR WEST					
	Arizona			New Mexico		
	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%):	3.67	3.67	3.67	6.53	6.53	6.53
COMBING WASTE(%):	19.22	19.22	19.22	19.48	19.48	19.48
YARN SKEIN STRENGTH TEST:						
Yarn Number (Ne)	20.8	34.9	49.7	22.3	36.1	49.6
CV% of Yarn Number	2.2	2.5	3.7	2.2	2.0	4.0
Count-Strength-Product	3948	3737	3436	4009	3725	3514
CV% of CSP	3.5	3.0	3.9	3.8	2.3	5.4
Elongation (%)	7.5	6.5	6.3	7.5	6.7	6.4
SINGLE-YARN STRENGTH TEST:						
Tenacity (mN/tex)	253	230	219	241	228	209
CV% of Tenacity	9.3	11.8	13.8	9.5	10.3	10.8
Force (N)	6.79	3.77	2.58	6.48	3.74	2.47
Elongation (%)	7.92	7.25	6.88	7.69	6.97	6.46
CV% of Elongation	8.8	8.5	10.2	9.5	8.9	7.8
Specific Work to Rupture (cm*N)	1.96	1.00	0.67	1.78	0.97	0.63
CV% of Specific Work to Rupture	13.1	15.0	18.2	12.8	14.4	14.2
USTER YARN EVENNESS TEST:						
Non-Uniformity (CV%)	11.4	14.2	17.2	13.0	14.3	16.4
Thick Places/1,000 yd	24	115	227	40	85	200
Thin Places/1,000 yd	3	13	39	1	10	35
Neps/1,000 yd	26	112	199	36	120	196
YARN APPEARANCE INDEX	120	100	90	120	100	90

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S.UPLAND	U.S. UPLAND (COMBED)	AMERICAN PIMA
CARD			
Standard Atmospheric Conditions			
Temperature (degrees F.)	75	75	75
Relative Humidity (pct.)	55	55	55
Sliver Delivered (gr./yd.)	60	60	60
Production Rate Per Hour (lbs.)	70	70	70
Doffer Speed (r.p.m.)	42	42	42
Cylinder Speed (r.p.m.)	365	365	365
Flat Speed (r.p.m.)	8.5	8.5	8.5
Licker-In Speed (in. / min.)	942	942	942
Settings:			
Feed Plate to Licker-In (in.)	.008	.008	.008
Mote Knife to Licker-In (in.)	.012	.012	.012
Licker-In Screen to Cylinder (in.)	.007	.007	.007
Back Cylinder Screen , Top (in.)	.023	.023	.023
Back Cylinder Screen , Bottom (in.)	.038	.038	.038
Front Cylinder Screen , Top (in.)	.120	.120	.120
Front Cylinder Screen , Bottom (in.)	.036	.036	.036
Flats, Back (in.)	.012	.012	.012
Flats, Mid (in.)	.010	.010	.010
Flats, Front (in.)	.009	.009	.009
Flats Stationary Back (3) (in.)	.010	.010	.010
Flats Stationary Front (3) (in.)	.010	.010	.010
Front Knife, Top (in.)	.010	.010	.010
Front Knife, Bottom (in.)	.010	.010	.010
Back Knife (in.)	.050	.050	.050
Top Front Plate to Cylinder (in.)	.040	.040	.040
Doffer to Cylinder (in.)	.004	.004	.004
Doffer to Stripper Roll (in.)	.005	.005	.005
Stripper to Crush Rolls (in.)	.008	.008	.008
Crusher Roll Pressure (lbs.)	112	112	112

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S. Upland	U.S. Upland (Combed)	American Pima
Standard Atmospheric Conditions			
Temperature (Degrees F.)	75	75	75
Relative Humidity (Pct.)	55	55	55
Sliver Lapper (Combed Only)			
Sliver Fed, 20 Each. (Gr./Yd.)	-	42	42
Lap Delivered (Gr./Yd.)	-	808	808
Speed (Yd./Min.)	-	46	46
Comber (Model 52)			
Sliver Delivered (Gr./Yd.)	-	50	40
Production Per Hour (Lbs.)	-	22	22
Nominal Waste (Pct.)	-	16 to 17	16 to 17
Breaker Drawing Frame (3 over 3)			
Sliver Fed (6 Each) (Gr. /Yd.)	60	60	60
Sliver Delivered (Gr. /Yd.)	53	53	53
Roll Settings:			
First to Second (Mm.)	36	36	39
Second to Third (Mm.)	40	40	42
Speed (Meters / Min.)	350	350	250
Finisher Drawing Frame (3 over 4)			
Sliver Fed (8 Each) (Gr. /Yd.)	53	53	53
Sliver Delivered (Gr. /Yd.)	55	55	55
Roll Settings:			
First to Third (In.)	2-9/16	2-9/16	2-5/8
Third to Fourth (In.)	1-1/2	1-1/2	1-7/8
Speed (Feet / Min.)	509	509	509

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S. Upland	U.S. Upland (Combed)	American Pima
Long Draft Roving (10 X 5, 1-Apron Type)			
Standard Atmospheric Conditions:			
Temperature (Degrees F.)	75	75	75
Relative Humidity (Pct.)	60	60	60
Sliver Fed (Gr. / Yd.)	55	55	55
Roving Delivered (Hank)	0.80, 1.00, 1.25	0.80, 1.00, 1.25	0.80, 1.00, 1.25
Roll Settings:			
First to Second (In.)	2-3/32	2-3/32	2-1/4
Second to Third (In.)	1-1/2	1-1/2	2
Spindle Speed (R.P.M.)	900	900	900
Long Draft Spinning (2-Apron Type)			
Standard Atmospheric Conditions:			
Temperature (Degrees F.)	75	75	75
Relative Humidity (Pct.)	65	65	65
Twist Multiplier (No.)	4.00	4.00	4.00
Carded Yarns (No.)	22, 36, 50	22, 36, 50	-
Combed Yarns (No.)	-	22, 36, 50	22, 36, 50
Roll Settings:			
First to Second (In.)	1-11/16	1-11/16	1-11/16
Second to Third (In.)	1-13/16	1-13/16	2
Spindle Speed (R.P.M.)	11,000	11,000	11,000
Open-End Spinning			
Standard Atmospheric Conditions:			
Temperature (Degrees F.)	75	75	-
Relative Humidity (Pct.)	65	65	-
Sliver Fed (Gr. / Yd.)	55	55	-
Twist Multiplier (No.)	4.80	4.80	-
Carded Yarns (No.)	10, 22, 30	10, 22, 30	-
Rotor Speed (R.P.M)	90,000	90,000	-
Rotor Diameter (Mm.)	T33	T33	-
Opening Roll Speed (R.P.M)	7,500	7,500	-